

FORM PTO 1300 (REV 10-2000)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER 120179.0100
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 09/ 857 464
INTERNATIONAL APPLICATION NO. PCT/KR99/00138	INTERNATIONAL FILING DATES 26 March 1999 (26.03.99)	PRIORITY DATE CLAIMED 07 December 1998 (07.12.98)	
TITLE OF INVENTION COMPOSITION OF MULTIPURPOSE FAR-INFRARED RADIATION MATERIAL			
APPLICANT(S) FOR DO/EO/US KIM, Young, Keun			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to promptly begin national examination procedures (35 U.S.C. 371 (f)). 4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (PCT Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2)) <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3)) <ol style="list-style-type: none"> a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)). 9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)). 			
Items 11 to 16 below concern document(s) or information included:			
<ol style="list-style-type: none"> 11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 & 3.31 is included. 13. <input type="checkbox"/> A FIRST preliminary amendment. 14. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 15. <input type="checkbox"/> A substitute specification. 16. <input checked="" type="checkbox"/> A change of power of attorney and/or address letter. 17. <input checked="" type="checkbox"/> Other items or information: International Search Report 			

U.S. APPLICATION NO. (if known) 09/857464 INTERNATIONAL APPLICATION NO. PCT/KR99/00138	ATTORNEY'S DOCKET NUMBER 120179.0100																																																												
17. <input checked="" type="checkbox"/> The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)): <input checked="" type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1000.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$860.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$710.00 <input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$690.00 <input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 ENTER APPROPRIATE BASIC FEE AMOUNT = \$ 1,000.00																																																													
Surcharge of \$ _____ for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (e)). <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">CLAIMS</th> <th style="width: 20%;">NUMBER FILED</th> <th style="width: 20%;">NUMBER EXTRA</th> <th style="width: 20%;">RATE</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>Total claims</td> <td>1 - 20 = 1</td> <td>0</td> <td>x 9.00</td> <td>\$ 0.00</td> </tr> <tr> <td>Independent claims</td> <td>1 - 3 = 0</td> <td>0</td> <td>x 40.00</td> <td>\$ 0.00</td> </tr> <tr> <td colspan="4">MULTIPLE DEPENDENT CLAIM(s) (if applicable)</td> <td>x \$</td> </tr> <tr> <td colspan="4">TOTAL OF ABOVE CALCULATIONS =</td> <td>\$ 0.00</td> </tr> <tr> <td colspan="4"> <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2. </td> <td>\$</td> </tr> <tr> <td colspan="4">SUBTOTAL =</td> <td>\$ 500.00</td> </tr> <tr> <td colspan="4"> Processing fee of \$ _____ for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (f)). + </td> <td>\$</td> </tr> <tr> <td colspan="4">TOTAL NATIONAL FEE =</td> <td>\$ 0.00</td> </tr> <tr> <td colspan="4"> Fee for recording the enclosed assignment (37 CFR 1.21 (h)). Assignment must be accompanied by appropriate cover sheet (37 CFR 3.28, 3.31) (_____ per property). + </td> <td>\$</td> </tr> <tr> <td colspan="4">TOTAL FEES ENCLOSED =</td> <td>\$ 500.00</td> </tr> <tr> <td colspan="4"></td> <td> Amount to be Refunded: \$ Charged: \$ </td> </tr> </tbody></table> <p>a. <input checked="" type="checkbox"/> A check in the amount of \$ 500.00 to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required or credit any overpayment to my Deposit Account No. 50-0436. A duplicate copy of this sheet is enclosed.</p> <p>NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.</p> <p>SEND ALL CORRESPONDENCE TO:</p> <p>PEPPER HAMILTON LLP Hamilton Square 600 14th Street, NW Washington, D.C. 20005-2004</p> <p style="text-align: right;"> SIGNATURE: <u><i>Corinne M. Pouliguen</i></u> NAME: Corinne M. Pouliguen 35,753 REGISTRATION NUMBER <i>June 5, 2001</i> </p>		CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		Total claims	1 - 20 = 1	0	x 9.00	\$ 0.00	Independent claims	1 - 3 = 0	0	x 40.00	\$ 0.00	MULTIPLE DEPENDENT CLAIM(s) (if applicable)				x \$	TOTAL OF ABOVE CALCULATIONS =				\$ 0.00	<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$	SUBTOTAL =				\$ 500.00	Processing fee of \$ _____ for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (f)). +				\$	TOTAL NATIONAL FEE =				\$ 0.00	Fee for recording the enclosed assignment (37 CFR 1.21 (h)). Assignment must be accompanied by appropriate cover sheet (37 CFR 3.28, 3.31) (_____ per property). +				\$	TOTAL FEES ENCLOSED =				\$ 500.00					Amount to be Refunded: \$ Charged: \$
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COMPOSITION OF
MULTIPURPOSE FAR-INFRARED RADIATION MATERIAL

Technical Field

The present invention relates to provide a novel composition of a far-infrared radiation material having multiple functions such as emission of non-thermal far-infrared rays, vital strength enhancement, air purification, absorption or neutralization of harmful electromagnetic waves, control of water vein, improvement of water and soil qualities, and the like.

Particularly, the present invention relates to a novel composition of a multipurpose far-infrared radiation material which is applicable to every fields of industry concerning environments, water quality and soil improvement, water purification, health products and hot medical applications, farm-livestock-fisheries products, floriculture, construction, building, food storage and processing, space-air, maglev magnetism, special alloyed steel, motor vehicle, sports, electrical and electronics, and so on.

Background Art

A growing interest has been taken in far-infrared rays has a positive effect on human body and food stuffs with high efficiency of energy. Far-infrared rays are lights having a long wavelength in the range of 5-1000 μm out of the infrared component of visible solar lights. Since the wavelength is almost the same as that of water which is the principle constituent of our human body, far-infrared rays transmitted into the body have a direct effect upon the